

## Abstract

To provide a permanent-magnet motor having a permanent magnet which can reduce the vibration and the noise without lowering the efficiency of the motor, the permanent-magnet motor according to the present invention has a stator 1 having stator winding of plural phases, a rotor 10 having a stator core 12 facing to inside of the stator across a gap part and a permanent magnet 14 provided to the rotor core. In the permanent-magnet motor, the permanent magnet 14 is made to have both a convex part to the inner diameter side and a convex part to the outer diameter side in the cross section taken vertically to the rotation axis, and a focus of magnetic orientation of each magnetic pole of the permanent magnet is located outside of the rotor 10.

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